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AMENDMENTS TO THE CLAIMS:

Replace the claims with the rewritten version.

1. - 5. (Cancelled)

6. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said amplitude quantizing means and said time quantizing means comprises a multi-bit A/D converter and where said feedback path comprises at least one D/A converter adapted for converting said time quantized signal into an analogue signal.

7. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein down sampling means are connected to said time quantizing means.

8. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said A/D converter comprises two or more self-oscillating loops (SOL).

9. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said amplitude time quantizing means comprises an analogue two-level self-oscillating pulse width modulator.

10. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said amplitude time quantizing means comprises a multi-level self-oscillating pulse width modulator.

11. (Cancelled)

12. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said A/D converter is differential.

13. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein said A/D converter comprises filtering means, said filtering means adapted for band pass filtering the time quantized signal.

14. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising

at least one self-oscillating loop comprising

at least one forward path,

at least one feedback path,

wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein an error originating from at least one time quantizer included in the at least one self-oscillating loop of the converter is suppressed by an error transfer function which, at low frequencies approximates an inverse of an open-loop transfer function of said at least one self-oscillating loop.

15. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal;~~A/D converter comprising a self-oscillating modulator according to claim 1,~~
wherein an error originating from at least one time quantizer included in the at least one self-oscillating loop of the converter is suppressed by an error transfer function which, at high frequencies approximates 0 dB.

16. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal;~~A/D converter comprising a self-oscillating modulator according to claim 1,~~
-wherein said amplitude quantizing means comprises a limiter.

17. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal;~~A/D converter comprising a self-oscillating modulator according to claim 1,~~

wherein said amplitude quantizing means comprises a frequency compensated limiter.

18. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,
wherein a variable self-oscillating loop delay is applied.

19. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; and A/D converter comprising a self-oscillating modulator according to claim 1,
further comprising a variable delay in the feedback path.

20. (Currently Amended) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal; A/D converter comprising a self-oscillating modulator according to claim 1,

wherein a transfer function $H(s)$ is inserted in the forward path, thereby at least partly controlling a switch-frequency.

21. – 24. (Cancelled)